RAILCAR MAINTENANCE PRACTICES

AGENCY: Federal Transit Administration (FTA), DOT

ACTION: Notice for Request for Proposals (RFP)

SUMMARY: FTA is seeking research proposals to study the effectiveness of railcar maintenance practices followed by public transportation agencies operating rail passenger service. FTA's research activities are authorized by 49 USC 5312, Research, Development, Demonstration, and Deployment Projects. The goal of this research program is to promote the research and development of new technologies that will improve the safety and efficiency of rail transit system operations in the United States. The objective of this project is to identify rail transit agencies with effective, "best practice" maintenance processes based on agency on-time performance, safety record, and mean-time-between-failures data. The research will evaluate railcar maintenance plans and processes and document the practices, methods and procedures that lead to highly effective railcar maintenance.

DATES: An applicant must electronically submit a proposal to http://www.grants.gov by midnight EDT, Monday, April 18, 2011, for consideration. All potential applicants are advised to begin the http://www.grants.gov registration process immediately, if they have not previously submitted Federal assistance applications through http://www.grants.gov, in order to be able to meet the deadline. FTA expects to award funds to one successful applicant through a cooperative agreement by June 17, 2011. In the event of a system problem or technical difficulty with the application submittal process, the applicant shall contact the FTA Program Manager for delivery instructions (see FOR FURTHER INFORMATION, CONTACT section below).

ADDRESSES: The website http://www.grants.gov allows applicant organizations to electronically find and apply for competitive opportunities from all Federal agencies that award Federal assistance. This website is the single access point for over 1,000 Federal assistance programs administered by the 26 Federal agencies.

FOR FURTHER INFORMATION CONTACT: Technical, program management, and administrative questions shall be directed to Program Manager: Patrick Centolanzi, PE Office of Technology (TRI-20), Federal Transit Administration, U.S. Department of Transportation, 1200 New Jersey Ave, SE, E43-463,Washington, D.C. 20590; email address: Patrick.Centolanzi@dot.gov.

SUPPLEMENTARY INFORMATION: None.

Objectives

The FTA's Office of Technology (TRI-20) is leading the research and development of new technologies for both bus and rail transit systems. One of FTA's Strategic Research

Goals is to support improving the performance of US transit operations and systems. The objective of this project is to identify rail transit agencies with effective, "best practice" maintenance plans based on agency on-time performance, safety record, and mean-time-between-failures data. The research shall evaluate railcar maintenance plans and processes and document the practices, methods and procedures that lead to highly effective railcar maintenance.

Background

Transit agencies throughout the United States are currently faced with budget shortfalls or deficits that are pressing them to make very difficult budget-cutting decisions. How to justify, buy, operate and maintain a safe multi-million dollar railcar fleet that delivers both maximum operational efficiency and maximum cost-effectiveness is a critical question faced daily. Operating inadequate and unsafe railcar fleets will decrease safety and increase the potential of accidents or injuries; increase possibilities of in-service failures and reduce on-time performance; and thus discourage existing and new riders and put additional strains on transit agency budgets, causing even more service cuts and/or fare increases.

In 2009, New England Professionals (Reference 1) conducted research to determine how using Six Sigma – a proven methodology for increasing productivity – could improve the effectiveness of rail transit operations. The research resulted in the development of a Transit Methodology using Six Sigma for heavy rail vehicle maintenance programs at Miami-Dade Transit. Five of the existing thirteen heavy rail transit systems participated in this research. The current research involves an assessment of several rail transit agencies, inclusive of commuter, heavy and light rail systems, to determine those with effective "best practices" maintenance plans and processes with regard to on-time performance, safety record, and mean-time-between-failures.

Problem Statement

Transit agencies need to maintain a safe railcar fleet that delivers maximum safety, maximum operational efficiency and maximum cost-effectiveness. There is not presently a thorough understanding of the various methods transit agencies use to maintain their fleets, nor is there a compendium of best practices.

Objective

Identify rail transit agencies with effective, "best practice" maintenance plans and processes based on agency on-time performance, safety record, and mean-time-between-failures. Evaluate the plans and document the practices, methods and procedures that lead to highly effective railcar maintenance.

Project Description/Focus and National Relevance

This project will document best practices in railcar maintenance for public transit agencies operating passenger service in North America and will also provide detailed information on transit agency railcar fleets. This information will include railcar manufacturer, age of the fleet, number of cars, availability of fleet, average miles per year per vehicle, etc. The project will determine the most effective railcar maintenance practices and describe how other transit agencies might integrate these practices into their operations. Railcar fleets are a critical component to the transit infrastructure. Servicing these fleets to maintain a State of Good Repair is a serious concern for transit executives.

Tasks

1. **IDENTIFY, QUANTIFY** and **SURVEY RAILCAR FLEETS**: Identify appropriate fleets or sub-fleets of commuter, heavy, metro and light rail cars for this evaluation. Fleets selected should be known in the industry for excellent safety, high availability, and cost-effective rail service. Sub-fleets may be quantified by mode, agency, line or route, type or model of car, maintenance yard or organization, and year of delivery, as appropriate.

   It is expected that historic trolleys, streetcars and circulators will be excluded. The strongest proposals will describe how rail modes, agencies, or fleets are selected for survey.

2. **EVALUATE SAFETY, AVAILABILITY, RELIABILITY,** and **COST-EFFECTIVENESS OF FLEETS**: For each of the fleets or sub-fleets identified in Task 1, collect and evaluate data on safety, availability, reliability, failure rate, and on-time performance. Accounting for railcar age and annual mileage, determine those fleets or sub-fleets that enjoy an effective and successful maintenance program.

   The strongest proposals will identify how each fleet or fleet to be passed to Task 3 is determined.

3. **IDENTIFY EFFECTIVE MAINTENANCE CONCEPTS, PROCEDURES** and **PROGRAMS**: For each of the fleets or sub-fleets identified in Task 2, evaluate, document and describe those concepts, programs, procedures and other elements of a successful and effective railcar maintenance program. Results could be segmented by mode and railcar age, or otherwise as appropriate.

4. **ISSUE FINAL RESEARCH REPORT AND MAKE PRESENTATIONS**

Products/Deliverables

This project will produce a final report identifying methods to improve rail maintenance practices and guidance on how to make existing practices more effective. This project will fund guidance materials and two presentations at State of Good Repair conferences and/or workshops.

After the final research report is published, the organization performing the research shall prepare and make presentations, as appropriate, to the American Public Transportation Association, the Transportation Research Board, the Federal Transit Administration, and other industry-related forums.

Project Schedule

The proposal must include a Project Schedule with detailed timetables on Task Number, Task Description, Start Date, and Period of Performance. Separately, the proposal must also identify Major Milestones, with Task Number, Deliverable Name, and Date of the Delivery in a table or in Microsoft Project format. The Final Report shall be delivered to FTA for publication by **March 31, 2012**. The project shall be closed with a Final Progress Report by **April 30, 2012**.

Eligibility Information

This is an unrestricted solicitation. Any responsible source may submit a proposal concept paper for consideration, including, but not limited to, states or local governments, or organizations of state or local governments, universities or institutions of higher education, non-profit organizations, private individuals, corporations, and businesses or commercial organizations, except that any business owned in whole or in part by the Federal Government is not eligible. Although businesses owned in whole or in part by the Federal Government are not eligible for direct funding, they may contract with eligible participants. Cooperative arrangements (e.g., joint ventures, limited partnerships, teaming arrangements, or collaboration and consortium arrangements) are permitted and encouraged.

Small, Small Disadvantaged (SD), and Service Disabled Veteran Owned Business Concerns, and Veteran Owned (VO) and Woman-Owned (WO), and Historically Underutilized Business Zone (HUBZone) Small Business Concerns, and Historically Black Colleges and Universities (HBCU) and Minority Institutions (MIs) are encouraged to submit proposals on their own or in collaboration with others. However, no portion of this RFP will be set aside or reserved exclusively for Small, SD, or Service Disabled Veteran Owned Business Concerns, or for VO, WO, or HUBZone Small Business Concerns, or for HBCU and MIs.

Award Information

FTA will fund one application under this program. The total available funding is $400,000. Future funding will depend on Appropriations. FTA will participate in activities by attending review meetings, commenting on technical reports, maintaining frequent contact with the project manager, and approving key decisions and activities including redirecting activities, if needed.

Cost Sharing or Matching

Federal transit funds are available to research projects at up to 100 percent of the project cost. However, cost sharing will be an evaluation criterion.

Proposal Content

This announcement includes all of the information that you need to apply. The following forms are available on grants.gov and are required to be completed:

1. SF 424 Mandatory
2. Other Attachments Form

SF 424 Mandatory

Most of SF 424 is self-explanatory. The proposal shall include the following items:

1a – Application
1b – Annual
4a – Leave blank
4b – 26

Other Attachments Form:

1. The proposal shall attach a pre-application (not more than 15 pages in length) as outlined in Chapter II (Item 9.b) of FTA Circular 6100.C: Transit Research and Technology Programs: Application Instructions and Program Management Guidelines: http://www.fta.dot.gov/laws/circulars/leg_reg_4121.html.

   This pre-application shall also address the six criteria laid out below in the Application Review Information section. The project budget justification shall include identification of any matching funds and their source. The Formal Application described in the Circular is not being requested at this time.

2. The proposal shall attach information on the qualifications of key personnel, including biographies.

Anyone intending to apply shall initiate the process of registering on http://www.grants.gov by **not later than April 1, 2011**for consideration. All potential applicants are advised to begin the online registration process immediately, if they have not previously submitted Federal assistance applications through http://www.grants.gov, in order to meet the deadline.

Proposal Review Information

A review panel will be convened to review each proposal. Project proposals will be evaluated based on the following criteria:

1. **Proposed Research**, which includes the applicability of the proposed research to the requirements, the uniqueness and/or need for the research, and the expected results. Proposals shall explain how a particular practice or technology will improve rail operations. The proposed project must identify railcar maintenance issues facing public transportation, why they are of national significance, the uniqueness or relationship of this project to other research, and how the proposed research will address each issue. The proposal must identify how rail modes and rail transit operating agencies will be selected for both survey and evaluation.
2. **Qualifications of Key Personnel**, which includes knowledge of and prior experience with railcar maintenance practices.
3. **Technical Management Plan**, which includes the management approach for planning, scheduling, administering, coordinating, and conducting the work effort.
4. Past Performance on activities relevant to the proposed work.
5. Cost and Cost Sharing.
6. Plan for Evaluation and Data Collection. The proposal must address how success will be measured (e.g., before and after studies).

Award Administration Information

The successful applicant will be notified of its selection by Monday, July 18, 2011. Following receipt of the notification letter, the successful entity will be required to submit the Formal Application as outlined in Chapter II (Items 10-25) of FTA Circular 6100.C: Transit Research and Technology Programs: Application Instructions and Program Management Guidelines http://www.fta.dot.gov/laws/circulars/leg_reg_4121.html through the FTA Transportation Electronic Award Management (TEAM) system website.

FTA will manage the cooperative agreement through the TEAM system website. Before FTA may award Federal financial assistance through a cooperative agreement, the entity must submit all certifications and assurances pertaining to itself and its project as required by Federal laws and regulations. Since Federal fiscal year 1995, FTA has been consolidating the various certifications and assurances that may be required of its awardees and the projects into a single document published in the Federal Register. Fiscal

year 2011 Annual List of Certifications and Assurances for FTA Grants and Cooperative Agreements and guidelines is published in the Federal Register and posted on the FTA website at: http://www.fta.dot.gov/funding/apply/grants_financing_12194.html and in PDF form with Appendix on the Government Printing Office website at: http://www.fta.dot.gov/documents/2010-27563.pdf.

The recipients will be required to manage this project in accordance with FTA Circular 6100.C: Transit Research and Technology Programs: Application Instructions and Program Management Guidelines: http://www.fta.dot.gov/laws/circulars/leg_reg_4121.html. This includes requirements on project management and administration including quarterly reporting, financial management, and payment.

Technical References:

1) "A Transit Methodology Using Six Sigma For Heavy Rail Vehicle Maintenance Programs", New England Professionals, August 2009 http://www.fta.dot.gov/documents/Transit_MethodologySixSigmaHeavyRailVehicleMaintenancePrograms.pdf.